

ABSTRACT

The present invention provides a method of stimulating a subterranean formation penetrated by a well. The formation has a water-bearing section and a hydrocarbon-bearing section. The method includes the steps of: (a) introducing into the formation an aqueous treatment fluid containing a hydrophobically-modified relative permeability modifier, and (b) introducing an acidizing treatment fluid into the formation. The hydrophobically-modified RPM can be formed and introduced into the formation in several ways. For example, the hydrophobically-modified RPM can be the reaction product of a hydrophilic polymer and a hydrophobic compound that are capable of reacting with each other. The hydrophilic polymer is a polymer containing reactive amino groups in the polymer backbone or as pendant groups, which are capable of reacting with a hydrophobic alkyl halide compound. The hydrophobically-modified RPM can include, for example, a polymer of DMAEMA quaternized with an alkyl halide, wherein the alkyl halide has an alkyl chain length of 6 to 22 carbons.